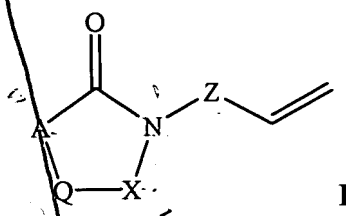


WHAT IS CLAIMED IS:

1. A compound having the formula:



wherein:

A is a member selected from the group consisting of NH, N-R⁸ and CR¹R², wherein R⁸ is a halogen;

R¹ and R², are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R¹ and R² and the carbon to which they are bound join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring;

Q is a member selected from the group consisting of C(O), NH, N-R⁹ and CR³R⁴, wherein R⁹ is a halogen;

R³ and R⁴, are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R³ and R⁴ and the carbon to which they are bound join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring;

X is a member selected from the group consisting of C(O), C(O)-NR⁵ and CR⁶R⁷, wherein R⁵ is a member selected from the group consisting of hydrogen, halogen, optionally substituted (C₂-C₆)alkenyl and optionally substituted (C₁-C₆)alkyl;

R⁶ and R⁷, are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R⁶ and R⁷ and the carbon to which they are bound join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring; and

29 Z is a member selected from the group consisting of optionally substituted ,
30 (C₁-C₃)alkylene, C(O), or a single bond.

1 2. The compound of claim 1, wherein: A is NH and Z is CH₂.

Sub 2 1 3. The compound of claim 1, wherein: A is CR¹R², wherein R¹ and
2 R², are each optionally substituted (C₁-C₆)alkyl.

1 4. The compound of claim 3, wherein: R¹ and R², are each (C₁-
2 C₃)alkyl.

1 5. The compound of claim 1, wherein: A is CR¹R², and wherein R¹
2 and R² and the carbon to which they are bound join to form an optionally substituted
3 carbocyclic or optionally substituted heterocyclic ring.

1 6. The compound of claim 5, wherein: R¹ and R² and the carbon to
2 which they are bound join to form an optionally substituted carbocyclic ring.

1 7. The compound of claim 1, wherein: Q is C(O).

1 8. The compound of claim 1, wherein: Q is NH.

1 9. The compound of claim 1, wherein: Q is CR³R⁴, wherein R³ and
2 R⁴, are each optionally substituted (C₁-C₆)alkyl.

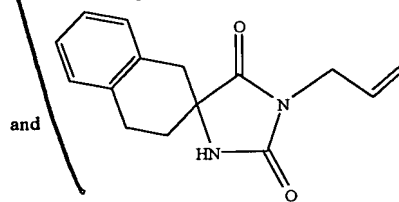
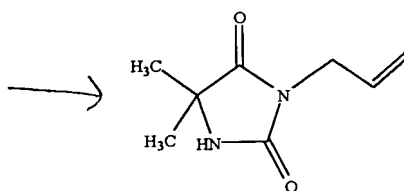
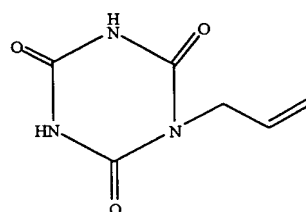
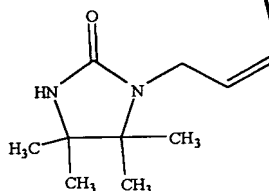
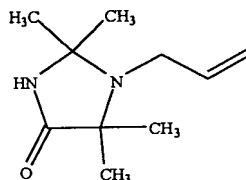
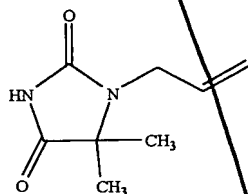
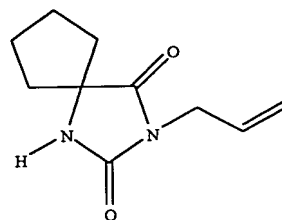
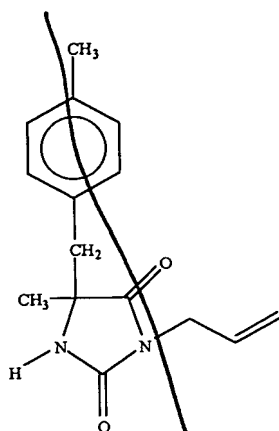
1 10. The compound of claim 1, wherein: X is CR⁶R⁷, wherein R⁶ and
2 R⁷, are each optionally substituted (C₁-C₆)alkyl.

1 11. The compound of claim 1, wherein: X is C(O)NH.

1 12. The compound of claim 1, wherein: Z is C(O).

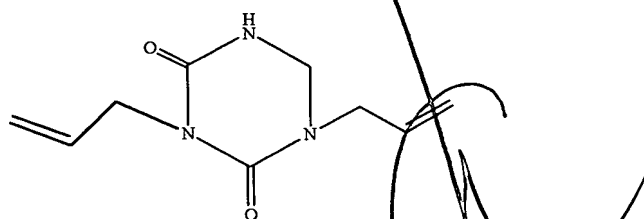
Sub 3 1 13. The compound of claim 1, said compound is a member selected
2 from the group consisting of

Sub 3
A
Contd



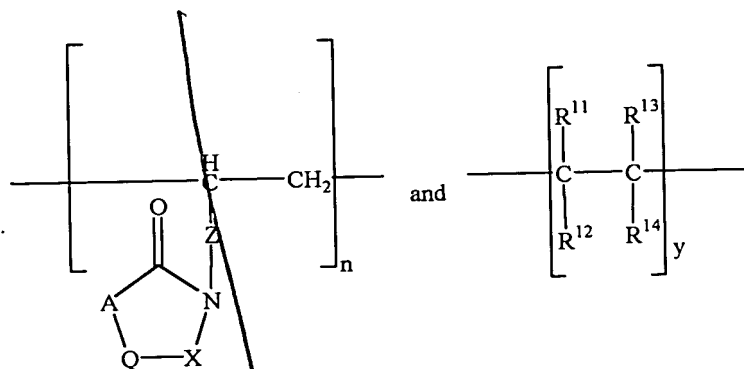
and

14. The compound of claim 1, said compound having the formula



15. A polymer comprising a mixture of monomeric units having the

formulae:



II

wherein:

A is a member selected from the group consisting of NH, N-R⁸ and CR¹R²,
wherein R⁸ is a halogen;

R¹ and R², are each independently selected from the group consisting of
optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R¹ and R² and the carbon to which they are bound join to form an
optionally substituted carbocyclic or optionally substituted heterocyclic ring;

Q is a member selected from the group consisting of C(O), NH, N-R⁹ and
CR³R⁴, wherein R⁹ is a halogen;

R³ and R⁴, are each independently selected from the group consisting of
optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R³ and R⁴ and the carbon to which they are bound, join to form an
optionally substituted carbocyclic or optionally substituted heterocyclic ring.

X is a member selected from the group consisting of C(O)-NR¹⁰ and
CR⁶R⁷, wherein R¹⁰ is a member selected from the group consisting of hydrogen,
halogen, optionally substituted (C₂-C₆)alkenyl and optionally substituted (C₁-C₆)alkyl;

R⁶ and R⁷, are each independently selected from the group consisting of
optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R⁶ and R⁷ and the carbon to which they are bound join to form an
optionally substituted carbocyclic or optionally substituted heterocyclic ring;

31 Z is a member selected from the group consisting of optionally substituted
32 (C₁-C₃)alkylene, C(O), or a single bond;

33 R¹¹ is a member selected from the group consisting of hydrogen, halogen,
34 hydroxyl, cyano, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₁-C₆)alkoxy, (C₁-C₆)alkylcarbonyl, (C₁-
35 C₆)alkylcarboxyl, aldehydo, amido, aryl and heterocyclyl;

36 R¹² is a member selected from the group consisting of hydrogen, halogen,
37 hydroxyl, cyano, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₁-C₆)alkoxy, (C₁-C₆)alkylcarbonyl, (C₁-
38 C₆)alkylcarboxyl, aldehydo, amido, aryl and heterocyclyl;

39 R¹³ is a member selected from the group consisting of hydrogen, halogen,
40 hydroxyl, cyano, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₁-C₆)alkoxy, (C₁-C₆)alkylcarbonyl, (C₁-
41 C₆)alkylcarboxyl, aldehydo, amido, aryl and heterocyclyl;

42 R¹⁴ is a member selected from the group consisting of hydrogen, halogen,
43 hydroxyl, cyano, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₁-C₆)alkoxy, (C₁-C₆)alkylcarbonyl, (C₁-
44 C₆)alkylcarboxyl, aldehydo, amido, aryl and heterocyclyl; and

45 n and y are each independently an integer from 1 to 250 inclusive.

1 16. The polymer of claim 15, wherein: n is 1 and y is 1.

1 17. The polymer of claim 15, wherein: A is NH and Z is CH₂.

1 18. The polymer of claim 15, wherein: A is CR¹R², wherein R¹ and R²,
2 are each optionally substituted (C₁-C₆)alkyl.

1 19. The polymer of claim 18, wherein: R¹ and R², are each (C₁-
2 C₃)alkyl.

1 20. The polymer of claim 15, wherein: A is CR¹R², and wherein R¹
2 and R² and the carbon to which they are bound join to form an optionally substituted
3 carbocyclic or optionally substituted heterocyclic ring.

1 21. The polymer of claim 20, wherein: R¹ and R² and the carbon to
2 which they are bound join to form an optionally substituted carbocyclic ring.

1 22. The polymer of claim 15, wherein: Q is C(O).

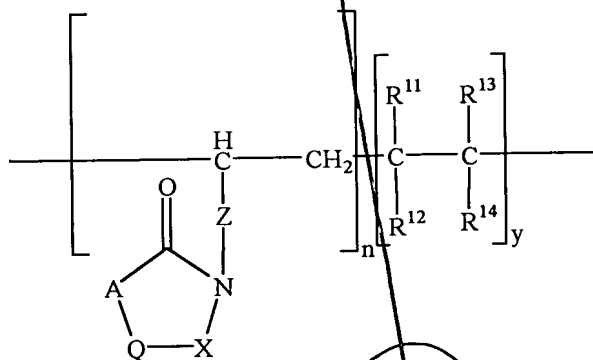
1 23. The polymer of claim 15, wherein: Q is NH.

1 24. The polymer of claim 15, wherein: Q is CR³R⁴, wherein R³ and R⁴,
2 are each optionally substituted (C₁-C₆)alkyl.

1 25. The polymer of claim 15, wherein: X is CR⁶R⁷, wherein R⁶ and R⁷,
2 are each optionally substituted (C₁-C₆)alkyl.

1 26. The polymer of claim 15, wherein: X is C(O)NH.

1 27. The polymer of claim 15, having the polymeric unit of the
2 formula:

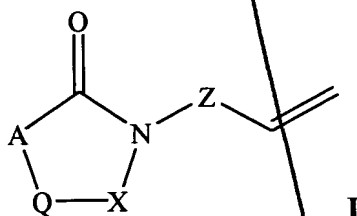


3 wherein n is 1 and y is 1.

1 28. The polymer of claim 15, wherein said polymer is a film.

1 29. A textile material comprising a polymer of claim 15.

1 30. A method for making a polymer, said method comprising:
2 admixing a compound having the formula:



3 wherein:

4 A is a member selected from the group consisting of NH, N-R⁸ and CR¹R²,
5 wherein R⁸ is a halogen;

6 R¹ and R², are each independently selected from the group consisting of
7 optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
8

9 substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
10 C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

11 or, R¹ and R² and the carbon to which they are bound join to form an
12 optionally substituted carbocyclic or optionally substituted heterocyclic ring;

13 Q is a member selected from the group consisting of C(O), NH, N-R⁹ and
14 CR³R⁴, wherein R⁹ is a halogen;

15 R³ and R⁴, are each independently selected from the group consisting of
16 optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
17 substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
18 C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

19 or, R³ and R⁴ and the carbon to which they are bound join to form an
20 optionally substituted carbocyclic or optionally substituted heterocyclic ring;

21 X is a member selected from the group consisting of C(O), C(O)-NR⁵ and
22 CR⁶R⁷, wherein R⁵ is a member selected from the group consisting of hydrogen, halogen,
23 optionally substituted (C₂-C₆)alkenyl and optionally substituted (C₁-C₆)alkyl;

24 R⁶ and R⁷, are each independently selected from the group consisting of
25 optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
26 substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
27 C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

28 or, R⁶ and R⁷ and the carbon to which they are bound join to form an
29 optionally substituted carbocyclic or optionally substituted heterocyclic ring; and

30 Z is a member selected from the group consisting of optionally substituted
31 (C₁-C₃)alkylene, C(O), or a single bond,

32 with a vinyl monomer in a reaction mixture thereby making said polymer.

1 31. The method of claim 30, wherein said vinyl monomer is a member
2 selected from the group consisting of an acrylic monomer, a monofunctional vinyl
3 monomer, a polyfunctional vinyl monomer and mixtures thereof.

1 32. The method of claim 30, wherein said reaction mixture further
2 comprises a free radical initiator.

1 33. The method of claim 31, wherein said vinyl monomer is selected
2 from the group consisting of acrylonitrile, methacrylate, vinyl acetate and mixtures
3 thereof.

34. The method of claim 30, further comprising treating said polymer with a halogenated solution.

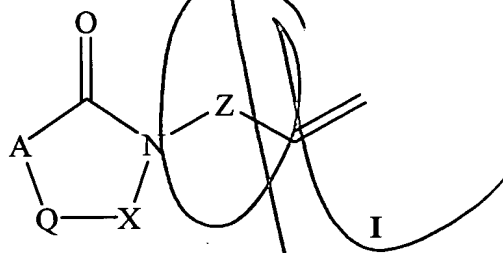
35. The method of claim 30, further comprising a second polymer in said reaction mixture.

36. The method of claim 35, wherein said second polymer is a member selected from the group consisting of a plastic, a rubber, a textile material, a paint, a surface coating and an adhesive.

37. A polymer, said polymer prepared by the method of claim 30.

38. A polymer, said polymer prepared by the method of claim 34.

39. A method for chemically modifying a polymer, said method comprising:
admixing said polymer in a reaction mixture with a compound having the formula:



wherein:

A is a member selected from the group consisting of NH, N-R⁸ and CR¹R², wherein R⁸ is a halogen;

R¹ and R², are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R¹ and R² and the carbon to which they are bound join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring;

Q is a member selected from the group consisting of C(O), NH, N-R⁹ and CR³R⁴, wherein R⁹ is a halogen;

17 R^3 and R^4 , are each independently selected from the group consisting of
18 optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
19 substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
20 C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

21 or, R^3 and R^4 and the carbon to which they are bound join to form an
22 optionally substituted carbocyclic or optionally substituted heterocyclic ring;

23 X is a member selected from the group consisting of C(O), C(O)-NR⁵ and
24 CR⁶R⁷, wherein R⁵ is a member selected from the group consisting of hydrogen, halogen,
25 optionally substituted (C₂-C₆)alkenyl and optionally substituted (C₁-C₆)alkyl;

26 R^6 and R^7 , are each independently selected from the group consisting of
27 optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally
28 substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-
29 C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

30 or, R^6 and R^7 and the carbon to which they are bound join to form an
31 optionally substituted carbocyclic or optionally substituted heterocyclic ring; and

32 Z is a member selected from the group consisting of optionally substituted
33 (C₁-C₃)alkylene, C(O), or a single bond,

34 with a vinyl monomer thereby chemically modifying said polymer.

1 40. The method of claim 39, wherein Z is CH₂.

1 41. The method of claim 39, wherein said vinyl monomer is a member
2 selected from the group consisting of an acrylic monomer, vinyl monomer and mixtures
3 thereof.

1 42. The method of claim 41, wherein said vinyl monomer is a member
2 selected from the group consisting of acrylonitrile, methacrylate, vinyl acetate and
3 mixtures thereof.

1 43. The method of claim 41, wherein said compound is present in said
2 reaction mixture in about 5 mole % to about 100 mole % relative to said vinyl monomer.

1 44. The method of claim 43, wherein said compound is present in said
2 reaction mixture in about 5 mole % to about 20 mole % relative to said vinyl monomer.

1 45. The method of claim 39, further comprising treating said
2 chemically modified polymer with a halogenated solution.

1 46. The method of claim 45, wherein said halogenated solution
2 comprises sodium hypochlorite.

1 47. A chemically modified polymer, said chemically modified polymer
2 prepared by the method of claim 39.

1 48. A chemically modified polymer, said chemically modified polymer
2 prepared by the method of claim 45.

1 49. A textile material having a cellulose surface with said chemically
2 modified polymer of claim 39, grafted thereto.

1 50. The method of claim 39, wherein said polymer is a member
2 selected from the group consisting of a plastic, a rubber, a textile material, a paint, a
3 surface coating, an adhesives, cellulose, a polyester, wood pulp, paper and a
4 polyester/cellulose blend.

1 51. The method of claim 50, wherein said textile material is cotton.

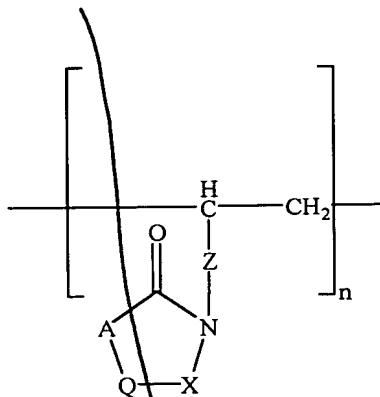
1 52. The process of claim 51, wherein said textile material is a member
2 selected from the group consisting of fabric, yarn and fiber.

1 53. The process of claim 50, wherein said textile material is a member
2 selected from the group consisting of a surgeon's gown, a cap, a mask, a surgical cover, a
3 patient drape, a carpeting, a bedding material, an underwear, a sock and a uniform.

1 54. The process of claim 39, wherein said process is regenerable. 112

1 55. The process of claim 39, wherein said process is durable. 112

1 56. A polymer comprising a monomeric unit having the formula:



wherein:

A is a member selected from the group consisting of NH, N-R⁸ and CR¹R², wherein R⁸ is a halogen;

R¹ and R², are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R¹ and R² and the carbon to which they are bound join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring;

Q is a member selected from the group consisting of C(O), NH, N-R⁹ and CR³R⁴, wherein R⁹ is a halogen;

R³ and R⁴, are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R³ and R⁴ and the carbon to which they are bound, join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring.

X is a member selected from the group consisting of C(O)-NR¹⁰ and CR⁶R⁷, wherein R¹⁰ is a member selected from the group consisting of hydrogen, halogen, optionally substituted (C₂-C₆)alkenyl and optionally substituted (C₁-C₆)alkyl;

R⁶ and R⁷, are each independently selected from the group consisting of optionally substituted (C₁-C₆)alkyl, optionally substituted (C₂-C₆)alkenyl, optionally substituted (C₂-C₆)alkynyl, optionally substituted cycloalkyl, optionally substituted (C₁-C₆)alkoxy, optionally substituted aryl and optionally substituted heteroaryl;

or, R⁶ and R⁷ and the carbon to which they are bound join to form an optionally substituted carbocyclic or optionally substituted heterocyclic ring;

